



OIPE

RAW SEQUENCE LISTING DATE: 05/07/2002  
PATENT APPLICATION: US/10/062,879 TIME: 11:33:41

Input Set : N:\CRF3\RULE60\10062879.raw  
Output Set: N:\CRF3\05072002\J062879.raw

1 <110> APPLICANT: Cockett, Mark I.  
2 Dilks, Daniel W.  
3 Chang Ling, Hua-Ping  
4 Sokol, Patricia T.  
5 <120> TITLE OF INVENTION: Human Potassium Channel Polynucleotides and  
6 Polypeptides and Uses Therefor  
7 <130> FILE REFERENCE: ahp-98089  
8 <140> CURRENT APPLICATION NUMBER: 10/062,879  
9 <141> CURRENT FILING DATE: 2002-01-31  
11 <150> PRIOR APPLICATION NUMBER: US/09/178,109  
12 <151> PRIOR FILING DATE: 1998-10-23  
15 <160> NUMBER OF SEQ ID NOS: 4  
16 <170> SOFTWARE: PatentIn Ver. 2.0  
18 <210> SEQ ID NO: 1  
19 <211> LENGTH: 2121  
20 <212> TYPE: DNA  
21 <213> ORGANISM: human  
22 <400> SEQUENCE: 1  
23 gattttgtca actaacttca acgttgggtg ccttagcttc gcgggggtgc cgcccaaga 60  
24 gctggagtca caatggcgcc cgaggatgtcg gcctgggtgc ttttggccg ggctggggcc 120  
25 atcgggttgg a tccgggtggc caactggccc atgccccctgg cccggggccg caagaacaag 180  
26 cgccggatg agtctgttgc ctccaaatgcg agttggggca ggttcccgac ctggaggacc 240  
27 acgttggggc gatccggccg caccctgtgc ggccggccg agaaggatgt ctcttcac 300  
28 gaggacacca agaggatctt ctccgacccg gaccccgagg ttgttccgtg cgttccgtc 360  
29 ttctaccgcg cggggaaatgc gcatacccccgcg cgtatccatgc gcatctgtc ctacgacgac 420  
30 gagctggcc ttcataccgcg cttccggagg atccatgggg ctgtgtgcg cgaggatgc 480  
31 aaggaccgcg agaggggaaa cgccggacccg ctatggggc acaacgacto ggaaacaac 540  
32 caggagtccca tgccttcgtcgttgc cagatgtgc ggcggggccgtt ccggggcc 600  
33 cacccaggca cgtctggccctt ggttttttac tcaatgtgc gttttttcatc cgtgtctcg 660  
34 gtcatccatgc aactgtggc gacggatgtcg tggccggccg tccggggccg caaggaggtg 720  
35 cggctggccgg agcgttacttc gttggcccttc ttctggccgg acacggccgtg cgttcatgtac 780  
36 ttacccgtgg agtaccccttccgggttccgc ggggttccca gccgttccgcg cttcatccgc 840  
37 agcgtcatgc gatccatgcgttgc tgggtggcc atccatgcctt actacatgg tttgttcatgc 900  
38 accacaaacgg agggatgtccgcggcccttc gtcacgttgc gggttttccgtt cgttccgg 960  
39 atcttcacgt tttccgcgc tcccaaggcccttc gtcggatcc tgggttccatc actgaagac 1020  
40 tttgtccctccg aactgtggcc tttttttccgc tcccaatccca tggccatcatc atctttggcc 1080  
41 acgtgtatgtt tttatccgcg gaaagggtccgc tggccggccg agttccacaaatccatccgc 1140  
42 tctgtttttgtt acacattgtt cccatggcc acatgggttgcggagacat ggttgcctaa 1200  
43 agatgttgcg ggaatgttgc cggccatccatgcgttgc tggccgttgc gtttgcatttgc 1260  
44 ctggccatccgc tttgttgcgttgc ttcacatccgcgttgc accacccatgc tcaacggatgt 1320  
45 gataaacgcg gggcacaaaa gaaggccccccttgcaggaa tccgtgtggc caaaacagggc 1380  
46 agttcaatgttgcatccatgcg cacaaggccgc aacggcccttc tcaacggatgc gctggggctg 1440  
47 acggccaccc cagaagagga gcaatggcc aagaccacccatgc tcaacggatgc 1500

ENTERED

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/062,879

DATE: 05/07/2002

TIME: 11:33:41

Input Set : N:\Crf3\RULE60\10062879.raw

Output Set: N:\Crf3\05072002\J062879.raw

```

48  catcacctgc tgcaactgcct ggaaaaaacc actgggtgt ctatcttgt ggatgatccc 1560
49  ctgttatctg taagaaacctc caccatcaag aaccacgagt ttatgtatgc gcagatgtt 1620
50  gagcagaactc gcatggagat ttcaatgcag aactaccat ccacaagaaat tcctctactg 1680
51  tccagccacc caggccctac taccacccatc tgctcccgat gtatagaataa gaccacacac 1740
52  ctggcccaactc ctaacctgccc agctactcgcc ctgcgcagca tgcaagatgcg cagcacatc 1800
53  cacatccaggc gcaatgcgcgc gcccctccatc acacaccatc gtcggccatc taaatggaaa 1860
54  gcaatgcgcg gactgagacc aaactgcataa acatcccaaga tcacccacagc catcatcagc 1920
55  atcccccaactc cccccgcatac aaccatccatc gggccaaatgc gggccacccccc tgccagccca 1980
56  ggcccccaactc caatccatc tccatcaacc acaatgttgc tcaaggatctc tgctttgtaa 2040
57  aataatcccgccg gcaatggcgcc cgccggagcat gcaatgcgcg ccataatcg ccctatagtg 2100
58  agtcgtattaa aacccgaaatc c 2121

60 <210> SEQ ID NO: 2
61 <211> LENGTH: 655
62 <212> TYPE: PRT
63 <213> ORGANISM: human
64 <400> SEQUENCE: 2
65 Met Ala Ala Gly Val Ala Ala Trp Leu Pro Phe Ala Arg Ala Ala Ala
66 1 5 10 15
67 Ile Gly Trp Met Pro Val Ala Asn Cys Pro Met Pro Leu Ala Pro Ala
68 20 25 30
69 Asp Lys Asn Lys Arg Gln Asp Glu Leu Ile Val Leu Asn Val Ser Gly
70 35 40 45
71 Arg Arg Phe Gln Thr Trp Arg Thr Thr Leu Glu Arg Tyr Pro Asp Thr
72 50 55 60
73 Leu Leu Gly Ser Thr Glu Lys Glu Phe Phe Asn Glu Asp Thr Lys
74 65 70 75 80
75 Glu Tyr Phe Phe Asp Arg Asp Pro Val Phe Arg Cys Val Leu Asn
76 85 90 95
77 Phe Tyr Arg Thr Gly Lys Leu His Tyr Pro Arg Tyr Glu Cys Ile Ser
78 100 105 110
79 Ala Tyr Asp Asp Glu Leu Ala Phe Tyr Gly Ile Leu Pro Glu Ile Ile
80 115 120 125
81 Gly Asp Cys Cys Tyr Glu Glu Tyr Lys Asp Arg Lys Arg Glu Asn Ala
82 130 135 140
83 Glu Arg Leu Met Asp Asp Asn Asp Ser Glu Asn Asn Gln Glu Ser Met
84 145 150 155 160
85 Pro Ser Leu Ser Phe Arg Gln Thr Met Trp Arg Ala Phe Glu Asn Pro
86 165 170 175
87 His Thr Ser Thr Leu Ala Leu Val Phe Tyr Tyr Val Thr Gly Phe Phe
88 180 185 190
89 Ile Ala Val Ser Val Ile Thr Asn Val Val Glu Thr Val Pro Cys Gly
90 195 200 205
91 Thr Val Pro Gly Ser Lys Glu Leu Pro Cys Gly Glu Arg Tyr Ser Val
92 210 215 220
93 Ala Phe Phe Cys Leu Asp Thr Ala Cys Val Met Ile Phe Thr Val Glu
94 225 230 235 240
95 Tyr Leu Leu Arg Leu Phe Ala Ala Pro Ser Arg Tyr Arg Phe Ile Arg
96 245 250 255
97 Ser Val Met Ser Ile Ile Asp Val Val Ala Ile Met Pro Tyr Tyr Ile

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/062,879

DATE: 05/07/2002

TIME: 11:33:41

Input Set : N:\CrF3\RULE60\10062879.raw  
 Output Set: N:\CRF3\05072002\J062879.raw

|     |   |     |     |
|-----|---|-----|-----|
| 98  | 260   | 265 | 270 |
| 99  | Gly Leu Val Met Thr Asn Asn Glu Asp Val Ser Gly Ala Phe Val Thr |     |     |
| 100 | 275   | 280 | 285 |
| 101 | Leu Arg Val Phe Arg Val Phe Arg Ile Phe Lys Phe Ser Arg His Ser |     |     |
| 102 | 290   | 295 | 300 |
| 103 | Gln Gly Leu Arg Ile Leu Gly Tyr Thr Leu Lys Ser Cys Ala Ser Glu |     |     |
| 104 | 305   | 310 | 315 |
| 105 | Leu Gly Phe Leu Leu Phe Ser Leu Thr Met Ala Ile Ile Ile Phe Ala |     | 320 |
| 106 | 325   | 330 | 335 |
| 107 | Thr Val Met Phe Tyr Ala Glu Lys Gly Ser Ser Ala Ser Lys Phe Thr |     |     |
| 108 | 340   | 345 | 350 |
| 109 | Ser Ile Pro Ala Ser Phe Trp Tyr Thr Ile Val Thr Met Thr Thr Leu |     |     |
| 110 | 355   | 360 | 365 |
| 111 | Gly Tyr Gly Asp Met Val Pro Lys Thr Ile Ala Gly Lys Ile Phe Gly |     |     |
| 112 | 370   | 375 | 380 |
| 113 | Ser Ile Cys Ser Leu Ser Gly Val Leu Val Ile Ala Leu Pro Val Pro |     |     |
| 114 | 385   | 390 | 395 |
| 115 | Val Ile Val Ser Asn Phe Ser Arg Ile Tyr His Gln Asn Gln Arg Ala |     | 400 |
| 116 | 405   | 410 | 415 |
| 117 | Asp Lys Arg Arg Ala Gln Lys Lys Ala Arg Leu Ala Arg Ile Arg Val |     |     |
| 118 | 420   | 425 | 430 |
| 119 | Ala Lys Thr Gly Ser Ser Asn Ala Tyr Leu His Ser Lys Arg Asn Gly |     |     |
| 120 | 435   | 440 | 445 |
| 121 | Leu Leu Asn Glu Ala Leu Glu Leu Thr Gly Thr Pro Glu Glu Glu His |     |     |
| 122 | 450   | 455 | 460 |
| 123 | Met Gly Lys Thr Thr Ser Leu Ile Glu Ser Gln His His His Leu Leu |     |     |
| 124 | 465   | 470 | 475 |
| 125 | His Cys Leu Glu Lys Thr Thr Gly Leu Ser Tyr Leu Val Asp Asp Pro |     | 480 |
| 126 | 485   | 490 | 495 |
| 127 | Leu Leu Ser Val Arg Thr Ser Thr Ile Lys Asn His Glu Phe Ile Asp |     |     |
| 128 | 500   | 505 | 510 |
| 129 | Glu Gln Met Phe Glu Gln Asn Cys Met Glu Ser Ser Met Gln Asn Tyr |     |     |
| 130 | 515   | 520 | 525 |
| 131 | Pro Ser Thr Arg Ser Pro Ser Leu Ser Ser His Pro Gly Leu Thr Thr |     |     |
| 132 | 530   | 535 | 540 |
| 133 | Thr Cys Cys Ser Arg Arg Ser Lys Lys Thr Thr His Leu Pro Asn Ser |     |     |
| 134 | 545   | 550 | 555 |
| 135 | Asn Leu Pro Ala Thr Arg Leu Arg Ser Met Gln Glu Leu Ser Thr Ile |     | 560 |
| 136 | 565   | 570 | 575 |
| 137 | His Ile Gln Gly Ser Glu Gln Pro Ser Leu Thr Thr Ser Arg Ser Ser |     |     |
| 138 | 580   | 585 | 590 |
| 139 | Leu Asn Leu Lys Ala Asp Asp Gly Leu Arg Pro Asn Cys Lys Thr Ser |     |     |
| 140 | 595   | 600 | 605 |
| 141 | Gln Ile Thr Thr Ala Ile Ile Ser Ile Pro Thr Pro Pro Ala Leu Thr |     |     |
| 142 | 610   | 615 | 620 |
| 143 | Pro Glu Gly Glu Ser Arg Pro Pro Pro Ala Ser Pro Gly Pro Asn Thr |     |     |
| 144 | 625   | 630 | 635 |
| 145 | Asn Ile Pro Ser Ile Thr Ser Asn Val Val Lys Val Ser Val Leu     |     | 640 |
| 146 | 645   | 650 | 655 |

RAW SEQUENCE LISTING  
PATENT APPLICATION:

DATE: 05/07/2002  
TIME: 11:33:41

Input Set : N:\Crf3\RULE60\10062879.raw  
Output Set: N:\CRE3\05072002\J062879.raw

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/062,879

DATE: 05/07/2002

TIME: 11:33:41

Input Set : N:\CrF3\RULE60\10062879.raw  
 Output Set: N:\CRF3\05072002\J062879.raw

198 Asp Lys Asn Lys Arg Gln Asp Glu Leu Ile Val Leu Asn Val Ser Gly  
 199 35 40 45  
 200 Arg Arg Phe Gln Thr Trp Arg Thr Thr Leu Glu Arg Tyr Pro Asp Thr  
 201 50 55 60  
 202 Leu Leu Gly Ser Thr Glu Lys Glu Phe Phe Asn Glu Asp Thr Lys  
 203 65 70 75 80  
 204 Glu Tyr Phe Phe Asp Arg Asp Pro Glu Val Phe Arg Cys Val Leu Asn  
 205 85 90 95  
 206 Phe Tyr Arg Thr Gly Lys Leu His Tyr Pro Arg Tyr Glu Cys Ile Ser  
 207 100 105 110  
 208 Ala Tyr Asp Asp Glu Leu Ala Phe Tyr Gly Ile Leu Pro Glu Ile Ile  
 209 115 120 125  
 210 Gly Asp Cys Cys Tyr Glu Tyr Lys Asp Arg Lys Arg Glu Asn Ala  
 211 130 135 140  
 212 Glu Arg Leu Met Asp Asp Asn Asp Ser Glu Asn Asn Gln Glu Ser Met  
 213 145 150 155 160  
 214 Pro Ser Leu Ser Phe Arg Gln Thr Met Trp Arg Ala Phe Glu Asn Pro  
 215 165 170 175  
 216 His Thr Ser Thr Leu Ala Leu Val Phe Tyr Tyr Val Thr Gly Phe  
 217 180 185 190  
 218 Ile Ala Val Ser Val Ile Thr Asn Val Val Glu Thr Val Pro Cys Gly  
 219 195 200 205  
 220 Thr Val Pro Gly Ser Lys Glu Leu Pro Cys Gly Glu Arg Tyr Ser Val  
 221 210 215 220  
 222 Ala Phe Phe Cys Leu Asp Thr Ala Cys Val Met Ile Phe Thr Val Glu  
 223 225 230 235 240  
 224 Tyr Leu Leu Arg Leu Phe Ala Ala Pro Ser Arg Tyr Arg Phe Ile Arg  
 225 245 250 255  
 226 Ser Val Met Ser Ile Ile Asp Val Val Ala Ile Met Pro Tyr Tyr Ile  
 227 260 265 270  
 228 Gly Leu Val Met Thr Asn Asn Glu Asp Val Ser Gly Ala Phe Val Thr  
 229 275 280 285  
 230 Leu Arg Val Phe Arg Val Phe Arg Ile Phe Lys Phe Ser Arg His Ser  
 231 290 295 300  
 232 Gln Gly Leu Arg Ile Leu Gly Tyr Thr Leu Lys Ser Cys Ala Ser Glu  
 233 305 310 315 320  
 234 Leu Gly Phe Leu Leu Phe Ser Leu Thr Met Ala Ile Ile Ile Phe Ala  
 235 325 330 335  
 236 Thr Val Met Phe Tyr Ala Glu Lys Gly Ser Ser Ala Ser Lys Phe Thr  
 237 340 345 350  
 238 Ser Ile Pro Ala Ser Phe Trp Tyr Thr Ile Val Thr Met Thr Thr Leu  
 239 355 360 365  
 240 Gly Tyr Gly Asp Met Val Pro Lys Thr Ile Ala Gly Lys Ile Phe Gly  
 241 370 375 380  
 242 Ser Ile Cys Ser Leu Ser Gly Val Ile Ala Leu Pro Val Pro  
 243 385 390 395 400  
 244 Val Ile Val Ser Asn Phe Ser Arg Ile Tyr His Gln Asn Gln Arg Ala  
 245 405 410 415  
 246 Asp Lys Arg Arg Ala Gln Lys Lys Ala Arg Leu Ala Arg Ile Arg Val

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/062,879

DATE: 05/07/2002

TIME: 11:33:42

Input Set : N:\Crf3\RULE60\10062879.raw

Output Set: N:\CRF3\05072002\J062879.raw